RCA III

Influence of Social Trends
on Agricultural Natural Resources

PUBLIC ATTITUDES AND FARMERS' PERCEPTIONS

Working Paper No. 19A

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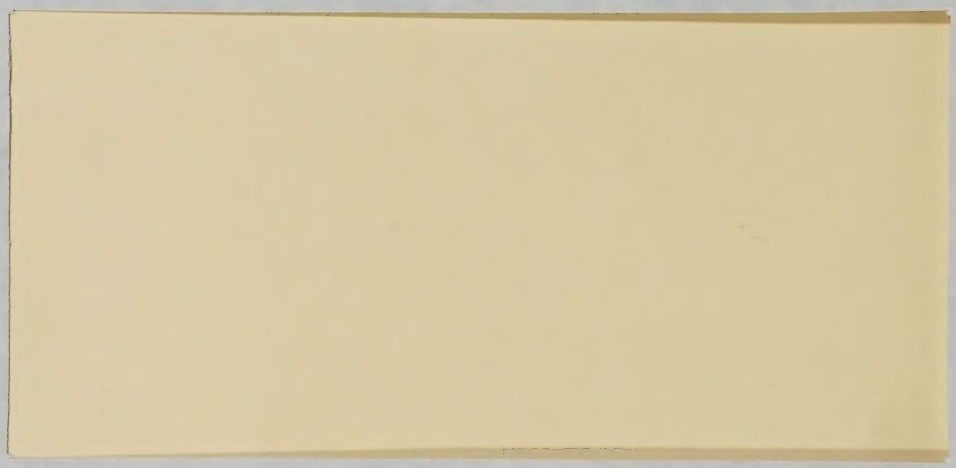

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This is part of a set of papers originally presented at the Symposium on
Influence of Social Trends on Agricultural Natural Resources
cosponsored by RCA and the Social Sciences Institute (NRCS)
(May 31–June 2, 1995, Washington, D.C.)
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Resource analysis and assessments are ongoing functions of the Natural Resources Conservation Service. These assessments play an important role in how we keep the public and policymakers informed about emerging conservation and environmental issues, develop plans to conserve our natural resources, and design programs to provide national leadership for the conservation of natural resources on America's private lands. For additional information about this or other NRCS resource assessment publications, contact the Director of the Resource Assessment and Strategic Planning Division, USDA, Natural Resources Conservation Service, P. O. Box 2890, Washington, D.C. 20013.

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Overview of the Symposium

The symposium on *Influence of Social Trends on Agricultural Natural Resources* took place on May 31–June 2, 1995. The speakers presented current trends and were challenged to forecast trends in conservation of our natural resources at two separate points in time—10 and 50 years in the future. This type of forecasting was an unusual challenge to the participants. Many of the "empirically oriented" social scientists chose to remain close to their data, while others did as they were asked and tried to act as seers. Only time will tell how close they came to predicting future scenarios. Assembling any group of scholars will lead to mixed forecasts. Rather than repeat each author's message, we have tried to emphasize some common themes in the presentations. If you want to find out what the authors themselves think, read the papers. It is well worth the effort.

Although the attitudes of the public and the agricultural community differ on some issues, support for a clean agricultural environment is almost universal. The public is concerned for the safety of food and water supplies. The public also feels that laws on threatened and endangered species and wetlands are just right or have not gone far enough in providing protection. Most farmers and ranchers, along with the public, support a federal role in agricultural conservation, especially in incentive payments to promote conservation.

Most of the public would like to see federal spending on agricultural conservation increase or remain the same. The desire of the public and agricultural communities to have an incentive-based system has been partly realized with the passage of the 1985, 1990, and 1996 Farm Bills (respectively Food Security Act of 1985; Food, Agriculture, Conservation, and Trade Act of 1990; and Federal Agriculture Improvement and Reform Act of 1996). Concurrently, the public supports regulation, fines, and withholding government benefits when voluntary conservation is not working. A majority view among presenters was that with time there would be an expanded regulatory role for all levels of government vis-à-vis production agriculture. There was some disagreement on whether this expanded regulatory role would come through the use of centralized, command-and-control regulations or through the use of market-based incentives.

When given an opportunity to voice their opinions regarding conservation compliance, most farmers with highly erodible land supported the program and did not want Congress to abolish it when crafting the 1996 Farm Bill. Furthermore, farmers with highly erodible land and conservation compliance plans believed that NRCS was more than fair in its implementation of conservation compliance planning. Over the last 5 years (the period during which farmers had to acquire their plans and have them fully implemented), farmers have been consistent in their support of the program. However, there is a troubling drop in the percentage of farmers with conservation compliance plans who believe that monitoring and enforcement are being carried out in such a way that farmers who are out of compliance will be found out and will lose eligibility for USDA program benefits.

The environment and ecosystem management will remain important future issues for the public and agricultural producers. During the next 50 years, as the global population continues to grow, agricultural producers and agribusinesses will be challenged to expand food production and the processing and distribution systems to keep pace with population growth without endangering the ecosystems supporting production agriculture. In industrialized countries, alternative food sources will be developed, environmental monitoring will become more widespread and more precise, and new environmentally benign methods of production agriculture and food processing will be developed. Given capital limitations, resource constraints, and increasing demand for food, the poorer countries will face growing environmental challenges as they use their physical resources more intensively in the effort to feed their populations and expand their trade abroad. Sources of environmental stress will be in the energy, manufacturing, and extractive industries in addition to agriculture. The future of humanity will depend on the development and sharing of appropriate technologies and mobilizing global efforts to effectively control population, produce enough food and fiber, and protect the environment.

A number of papers underscored the structural transformation underway in the agricultural and financial sectors. Increased vertical integration and the separation of land and resource ownership for farm operations are rapidly changing the character of agriculture. For example, one author suggested that in the 1980s banking and finance became more national, if not global, as local banks and credit unions—especially in rural areas—went out of business. The cold dollars-and-cents business world of finance merges uncomfortably with the inherent instability of agriculture and the accompanying fluctuations of farm income. During the next 10 years, income in the agricultural sector may be even more volatile, due to the elimination of the farm income safety net. With the gradual removal of this safety net through the 1996 Farm Bill, farmers will face increased financial risk and greater uncertainty. A challenge for operators will be the development of strategies for shifting the increased risk from themselves to others.

One consequence of the consolidation within the financial sector will be the shifting of funds away from rural areas and the increased reliance of farmers on capital and operating loans coming more from commodity processors and input suppliers than from traditional banking sources. Corporations will begin to own more agricultural land, and for the land they do not own, they will contract with farmers as to what to produce and how to produce it in exchange for a guaranteed market for the commodity. In many instances, the farmers will be no more than salaried workers. One impact of these changes will be to make farmers dependent on agribusinesses. Farmers and farm managers will have a vested interest in production, not conservation. In this transformed world of agriculture, a major challenge will be the public sector's voice demanding food safety, environmental quality, and worker health and safety.

Much of the livestock industry—cattle, chickens, hogs, turkeys, and sheep—is currently controlled by a few companies. In addition to livestock conglomerates, industrial consolida-

tions of port facilities and feed, elevator, milling, and soybean-crushing plants limit market access for individual producers. Companies that contract for agricultural products are not typically held responsible for environmental impacts, while individual producers are. Hence, while agricultural processors will increasingly specify what to produce and how to produce it, the environmental consequences of those specifications will shift to individual producers. However, the public will exert enough pressure so that environmental responsibilities will likely be pinpointed as this type of agricultural concentration increases. Not only will concentration of production and processing take place in the livestock sector, it will also occur with grain and oilseed crops, their processing, and the transportation of all agricultural commodities. Farmers, public interest groups, and government officials are just now becoming aware of the structural changes sweeping over agriculture and of the implications they hold for producers, consumers, and the environment.

Crop biotechnology is not currently and will not in the next 10 years be a significant factor in relation to environmental quality. However, some aspects of agricultural industry are more directly affected by biotechnology than others. For example, the livestock industry has been affected through the development of growth hormones and vaccines for increasing livestock production. In contrast, it is more difficult to manipulate cereal grains through bioengineering technology than was thought at first. In fact, these common grains may be easier to modify through conventional breeding techniques that improve multiple genetic (polygenic) traits than by the use of biotechnology, which focuses more easily on single genetic traits.

Crop biotechnology (e.g., herbicide- and pesticide-resistant crop varieties) is following an established technological trajectory rather than defining a new path. Some of these developments feed into existing monocultural practices (with their attendant environmental problems) and limit the use of crop rotations. Mechanization and industrialization are the current dominant trends in agriculture, and biotechnology complements these trends. Biotechnology will have mixed effects on environmental quality, and its impact depends to a great degree on how public policy is implemented in the environmental arena.

Several researchers projected that national conservation institutions over the next decade will remain in place but with reduced funding. State and local institutions will need to significantly increase resources directed toward conservation. Stronger agricultural regulations will be passed at the state and local levels. However, in general, states and local areas do not have the financial capabilities to provide full-service technical assistance and cost-sharing for conservation, nor do they have the staff capabilities to regulate the agricultural industry. In fact, one of the challenges is not only the extent to which states can pass legislation on soil and water conservation but the extent to which they can implement and administer the laws they have. Presenters recommend that state and local political institutions acquire taxing authorities so they can more directly provide staff assistance and incentives to foster natural resource protection and enhancement at the local level. While state and local units of government could assume greater responsibility for soil and water conservation programs,

an important challenge will be how much *both* the agricultural and nonagricultural communities are involved in decisionmaking, as well as how closely local concerns reflect the environmental concerns of the wider community.

The projected unit of analysis for agricultural conservation work is at the watershed level. While this unit may be very appropriate for ecosystem planning (e.g., ecological linkages across a landscape, a context for socioeconomic-political institutions), it presents a number of challenges that have to be addressed if the watershed approach is going to achieve its promise. For example, what is the spatial scale at which a watershed is defined? Is a large-scale or small-scale approach taken to delineate watersheds for planning purposes? Another question is, what criteria are used to separate watersheds: are they biological, social, or topographic in nature? How can watershed planning be reconciled with various overlapping levels of government that have to be coordinated and through which administrative control of conservation policy is exercised? And finally, how can procedural and substantive issues of the wide variety of organizational missions be addressed at a watershed level?

The idea came up repeatedly that while most farmers and ranchers use sound conservation systems, 10 to 15 percent of them are "bad actors." These producers are unaware of or choose to ignore the negative effects of their production systems on the environment. It will be extremely difficult to change the behavior of these people. Participants felt that the larger society will eventually demand that the bad actors be penalized for polluting the environment. The penalties might come as fines, stricter environmental regulation and enforcement, or more programs like conservation compliance. Two forces are at work. First, the structural changes taking place in agriculture are working to destroy the Jeffersonian image of the yeoman farmer that gives farming special status vis-à-vis environmental regulation. Second, more and clearer information about the interaction of production agriculture and environmental quality will result in stronger public demand for environmental protection. Improved resource inventories will facilitate the tracking of environmental degradation and the levying of penalties. Resource inventories will become more important in the future, based on two trends: *increased accountability* for scarce financial resources, and *advancing scientific capabilities* that increase the ability of conservation partners to assess and monitor environmental conditions.

Environmental justice was another topic discussed. Industry and agriculture have taken advantage of minorities by ignoring the effect of agricultural pollutants on minority populations and by placing chemical production, waste facilities, or concentrated farm operations in minority communities. A Presidential Executive Order on Environmental Justice (Executive Order 12898) attempts to address this issue. During the next 10 years, increased awareness of these issues in minority communities will merge with more reliable and accessible information to slow but not stop these negative impacts. The "not in my backyard" movement, a classic middle-class movement, helps to relocate agricultural pollution to minority areas. It will take many years before this entrenched trend is offset.

The future moves erratically, with many choices that each yield unclear results. History has the advantage of being able to look back to add meaning to society's many bends in the road. The exercise of looking ahead 10 and 50 years forces researchers to rely on their basic assumptions about the nature of human beings as well as the influence that systems wield on future events. Skepticism and optimism were the yin and the yang of this symposium. Comparing the present to a future ideal is frustrating because, in some cases, the present environment is toxic to living creatures. However, at the same time, there is room for optimism. The continuing environmental movement in general has been strengthened and sculpted by the legislative and executive branches of different levels of government. This can be attributed to the public's strong support for wetlands, wise use of agrichemicals, food safety, water quality, threatened and endangered species, and safe recreational opportunities. The public also supports localized decisionmaking, which puts human and physical resources in local hands.

As we look 50 years into the future, the trend toward the industrialization of the agricultural sector is bound to accelerate. It seems conservationists are presently pushing their bandwagon down a slight grade because of the public's support. To speed up the wagon, we must institutionalize two new inputs besides the traditional inputs of land, labor, technology, and capital. These added inputs are *environmental considerations* and *fairness/equity*. As these inputs become standard costs for doing business, the agricultural sector will realize its potential to be healthy, fair, and productive.

Frank Clearfield and Steven Kraft

June 1997

Abstract

The Natural Resources Conservation Service (NRCS) is still in the reorganization process that began with the Clinton administration's effort on reinventing the government and was fueled by the public's desire to reduce the size of the federal deficit and to balance the budget. The agency leaders partly used social sciences information on which to base the agency's reorganization. The agency funded a Gallup Poll of 1,250 members of the American public to assess current environmental attitudes and to predict the public's desires for future environmental services. In addition, NRCS conducted surveys of 18,000 customers and 8,400 employees as part of this information-gathering effort. As a result, the agency has an overall increase in customer focus, greater discipline diversity, and increased empowerment for their approximately 8,000 field staff.

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The Reorganization of the Natural Resources Conservation Service

Listening and Reacting to Customer Needs

Frank Clearfield and Kim Berry

Introduction

Thomas Jefferson was the first president to work on cutting the "fat" out of government. Since that time, Theodore Roosevelt, Calvin Coolidge, Franklin Roosevelt, Jimmy Carter and others have set up task forces or commissioned experts to reinvent government. President Clinton established the National Performance Review on March 3, 1993, which had as its major purpose outlining the changes that would make the government more efficient and effective.

On October 5, 1994, then-Secretary of Agriculture Mike Espy presented to Congress the reorganization plan of the U.S. Department of Agriculture, which they quickly approved. This plan would save $2.5 billion, close 1,100 field offices and reduce staff by 7,500. Six broad mission areas were identified: (1) improved services to farmers; (2) rural development; (3) food, nutrition, and consumer service; (4) food quality and safety; (5) research, education, and economics; and (6) conservation.

The agency primarily responsible for natural resource conservation, the Soil Conservation Service, is the focus of this presentation. Under the reorganization, this agency received a broader mission and was renamed the Natural Resources Conservation Service (NRCS). NRCS was mandated to cut headquarters staff by 51 percent saving an estimated $50 million annually. They also were faced with closing field offices and national technical centers.

Background

Since "Earth Day" in 1970, it is increasingly evident that domestic and international environmental movements have mobilized an increasing membership which has concentrated on the protection of natural resources. A host of surveys have identified the American public's support of environmental issues. For example, according to Mark Wexler, Americans are highly concerned with the environment. Sixty-two percent of the voters he surveyed believe that most environmental laws are good; however, 41 percent believed that environmental laws do not do enough (1995).

Another survey on environmental laws, conducted by the National Wildlife Federation, found that voters in the November 1994 general assembly election were not opposed to environmental regulations (Line, 1995). In fact, the majority felt that environmental laws were insufficient and that a candidate's environmental record was a factor in the election. An earlier National Wildlife Federation survey showed that most countries rank environmental problems second only to economic problems (National Wildlife Federation, 1992). The Roper Organization found that concern for the environment, as manifested through the public's support of personal responsibility, is more prevalent in American society than ever before (Allen and Sekscienski, 1992). There are many other surveys that document the public's support for the environment.

NRCS Chief Paul Johnson has long been a prime mover in the conservation of natural resources. He supports voluntary conservation planning that addresses all the resources of the American farm. He believes that agriculture harvests much more than food and fiber; the agricultural community also produces clean air, open space, wildlife habitat, clean water, and recreational opportunities. In short, agriculture leads to a more organic, durable, and healthy environment.

In the recent past, NRCS assisted the nation's farmers and ranchers to develop and apply 1.7 million conservation compliance plans and reduced soil erosion by 66 percent in the last 10 years, due largely to 1985 and 1990 legislation. Currently, NRCS is moving beyond just working to reduce soil erosion and toward dealing with five major natural resources: soil, water, air, plants, and animals, as well as with the "human" component of conservation activities. Dealing with these five resources and the "human" factor in an interactive framework is not a new concept for many landowners or for NRCS. Instead, it is a *recommitment* to the agency's roots, where the services NRCS provides are tailored to the needs of individual farmers and ranchers. Earlier projects, such as the "one-farm-plan" concept of the early 1990s, as well as ongoing initiatives and pilot projects across the country, will provide guidance in determining whether and how farm and ranch conservation planning can help landowners. Two broad categories of assistance include helping landusers understand, first, the natural resources they have to work with, and second, how to make the best and most productive use of those resources.

Information-Gathering Strategies

In order to gather information from NRCS customers, Chief Johnson devised a plan to develop forums at which customers could respond to a series of open-ended questions. These "Reinvention Forums" were designed to gather input from employees, partners, customers, and the general public to help chart the future direction of NRCS. Narrative information was obtained from over 18,000 participants in 351 forums nationwide. Survey data were collected from nearly 27,000 people including customers and employees. Finally, 1,250 phone interviews from a national sample were collected. This information was distilled and

used to provide guidance in the following areas: customer service, staffing, program outreach, technology acquisition, priority setting, and quality management.

The Gallup Organization conducted a phone survey in which the respondents were predominantly white (84 percent), neither farmers nor ranchers (93 percent), over 35 years of age (62 percent), and living in an urban setting (83 percent). Nearly half the respondents had heard of the agency, and all respondents identified natural resource issues for the next decade. The top issues that headed the list included water quality, water availability, and air quality.

When respondents were asked to identify the best and worst caretakers of the environment, individual farmers and agriculture received the highest marks, while manufacturers and the oil industry received the lowest. As in the surveys noted earlier, many respondents (55 percent) felt that more environmental regulations were needed and would occur during the next 10 years. Many respondents also did not feel that food (49 percent) and water (56 percent) supplies are safe.

A "Customer/Partner" survey and an "Employee" survey were also conducted. The respondents of the Customer/Partner survey were primarily white males with college degrees or higher, earning between $15,000–$49,000 in the agricultural production industry. Like the general public, the majority of customers and NRCS employees felt that water quality is the most important natural resource issue. They also agreed that the voluntary approach is the most effective way to protect natural resources.

A large percentage of customers (49 percent) and NRCS employees (47 percent) are not comfortable with NRCS in the regulator's role. Although some customers and employees feel that NRCS staff should regulate as well as provide technical assistance, many other customers and employees want the states or the Conservation Districts to enforce regulations. As far as who should pay for agricultural conservation, a 50/50 split between the landowner and society was seen as most desirable.

Customers and employees told us that water quality (surface and subsurface), soil survey and soil erosion information will continue to be disseminated to the customers. Not surprisingly, soil survey, conservation planning, and engineering were rated as the agency's most important products. The most useful technologies cited were GIS and InfoShare (USDA agencies sharing information on computers).

Respondents said the "field office of the future" (FOF) should merge management functions with technical assistance and should increase the staff's mobility. The FOF should do the following: provide accurate technical information, allow employees to have access to technical training, provide one-on-one assistance, empower communities, and utilize up-to-date technology. The desired level of authority was high, but agency customers went even further than employees in supporting a field delivery system that gives NRCS field employees maximum authority to make field-level decisions.

NRCS respondents felt the critical areas in which NRCS needs to strengthen their expertise include pesticide and nutrient management, environmental sciences, Geographic

Information Systems, and computer science. Other critical areas included environmental specialists (with ecology and biology), public affairs (marketing and facilitation), and sociology (alliance building, conflict management, and community development).

In regard to policy development, conducting regional, ecological and social analyses prior to establishing the final policy was recommended, followed by policy developed by an alliance of partners, businesses, and environmental groups. Policy implementation should give district and NRCS staff authority to implement policy based on local conditions according to respondents.

Conclusion

The findings of the Gallup Poll were highlighted by columnist George Anthan in *The Des Moines Register*, May 30, 1995. He reported that the questions from these surveys were straightforward and not loaded. Anthan also reported that the results do not differ from surveys conducted by other groups that queried farmers and the public and found strong support for the environment. One example is an American Farmland Trust survey, which revealed that producers gave strong backing to conserving soil and water. An Iowa poll of farmers found that farmers felt federal environmental policies were "about right" or needed to be strengthened. NRCS has looked through the kaleidoscope of information and, as a result, the agency's organization has changed. Positions that were not policy related, including middle-management and other administrative positions, were cut at the national level. Field-level staffing is being increased in order to better serve our customers. Six regional offices were created to better coordinate regionwide strategic planning and improve program consistency and accountability.

Five centers and eight scientific institutes were also created. The centers provide services and information on specialized topics, such as Cartography Geospatial, National Soil Survey, Plant Data, Soil Mechanics, and Water and Climate. The institute offices are primarily responsible for technology development and transfer. NRCS's Wetlands Science, Grazinglands Technology, Natural Resources Inventory and Analysis, Automation, Wildlife Habitat, Social Sciences, and Soil Quality Institutes are well on the way to establishing themselves as leaders in these fields.

Executives in the NRCS have listened closely to the public, its customers, and its employees concerning new directions and how to improve current directions. The major result of this effort has been to have a sharper customer focus that will assist farmers and ranchers in planning and applying conservation systems. This will translate into a cleaner, healthier, and more sustainable environment for the public as well as for the farm community.

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Survey Research and Conservation Policy

Insights for the 21st Century

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Introduction

Survey research provides a set of methods that are pivotal to the development and implementation of soil and water conservation policy. As we look to the future, we can use lessons from past and present survey research to aid in developing and implementing policies that have a high likelihood of achieving their goals.

Background and Literature Review

If the intent of the body politic is to use public policy to induce fellow citizens to act in ways they would not normally act (Gustavsson 1980; Elmore 1980; Kiviniemi 1986), then a primary purpose of conservation policy is to induce farm operators and landowners to utilize their soil and water resources differently than they would otherwise do. That is, farm operators would modify the ways they combine land and water resources with other inputs to produce agricultural commodities. The result, if the policy is successful, would be a reduction in environmental degradation derived from agriculture while maintaining the economic viability of farm operations.

Assuming that the objectives of conservation policy include the development of environmentally benign or beneficial forms of profitable production agriculture, an assessment of factors influencing behavioral changes among farmers regarding conservation is vital. Policy tools facilitating or impeding behavioral changes can be identified and either expanded or remedied.

Sabatier and Mazmanian: Public Policy Implementation

Sabatier and Mazmanian (1981) provide a useful means to identify areas in which survey research can be used as part of the policy process. Their approach incorporates a focus both on the intended targets of given public policy and on the agency or agencies charged with the policy's implementation.

In their analysis, Sabatier and Mazmanian (1981) present three sets of variables critical to policy implementation (figure 1). Within each of these sets, there are variables that can be studied through the use of survey research: *behaviors* of the members of the intended target group of the policy, of staff of the agency or agencies involved in the implementation process, and of the general public.

The first of the three sets of variables relates to the inherent *tractability* of the problem. Specifically, tractability refers to those aspects of the problem that affect the ability of the involved governmental institutions to achieve the objectives laid out in statute (figure 1). At least two of the aspects identified by Sabatier and Mazmanian as comprising tractability (e.g., diversity of target group behavior and extent of behavioral changes required) can be assessed by using survey research.

The second set of variables is the extent to which statutes have *structured* implementation. From the perspective of implementation, the statute constitutes the public policy that is to be implemented. Consequently, the way in which the statute has been written bears directly on the process through which the policy moves from statute through the writing of implementation rules (see Kerwin 1994) to actual implementation at specific times and places. Given the variables identified in figure 1, survey research of the personnel of the implementing agency (or agencies) can be used to study whether clear and consistent objectives exist and are shared by personnel, to assess whether the implementing personnel believe there is an adequacy of financial and institutional resources, and to determine the extent of integration among implementing institutions.

The third set of variables is *nonstatutory* variables that affect implementation. Sabatier and Mazmanian maintain that successful implementation of public policy is directly tied to (1) the need for the policy to receive constant or periodic infusions of political support and (2) the impact of changes in socioeconomic and technological conditions on the "reservoir" of public support for the objectives of the policy. Using figure 1, we find a number of variables that researchers can address using survey research. These include the impact of changing socioeconomic and technological conditions on the general public and the "targets" of the policy, the level of public support for the policy, the attitudes and resources of the different constituency groups involved with the implementation of the policy, the depth of support from "political" sovereigns who are in positions to monitor the implementation of the policy as well as maintain political support for the policy, and the commitment to the policy of its implementing officials.

In summary, the framework for studying policy implementation presented by Sabatier and Mazmanian lends itself to the use of survey research. Consequently, given our interest in the implementation of conservation policy, appropriately designed surveys could be used to assess the effectiveness of the implementation of soil conservation policies as well as to identify potential barriers to its success.

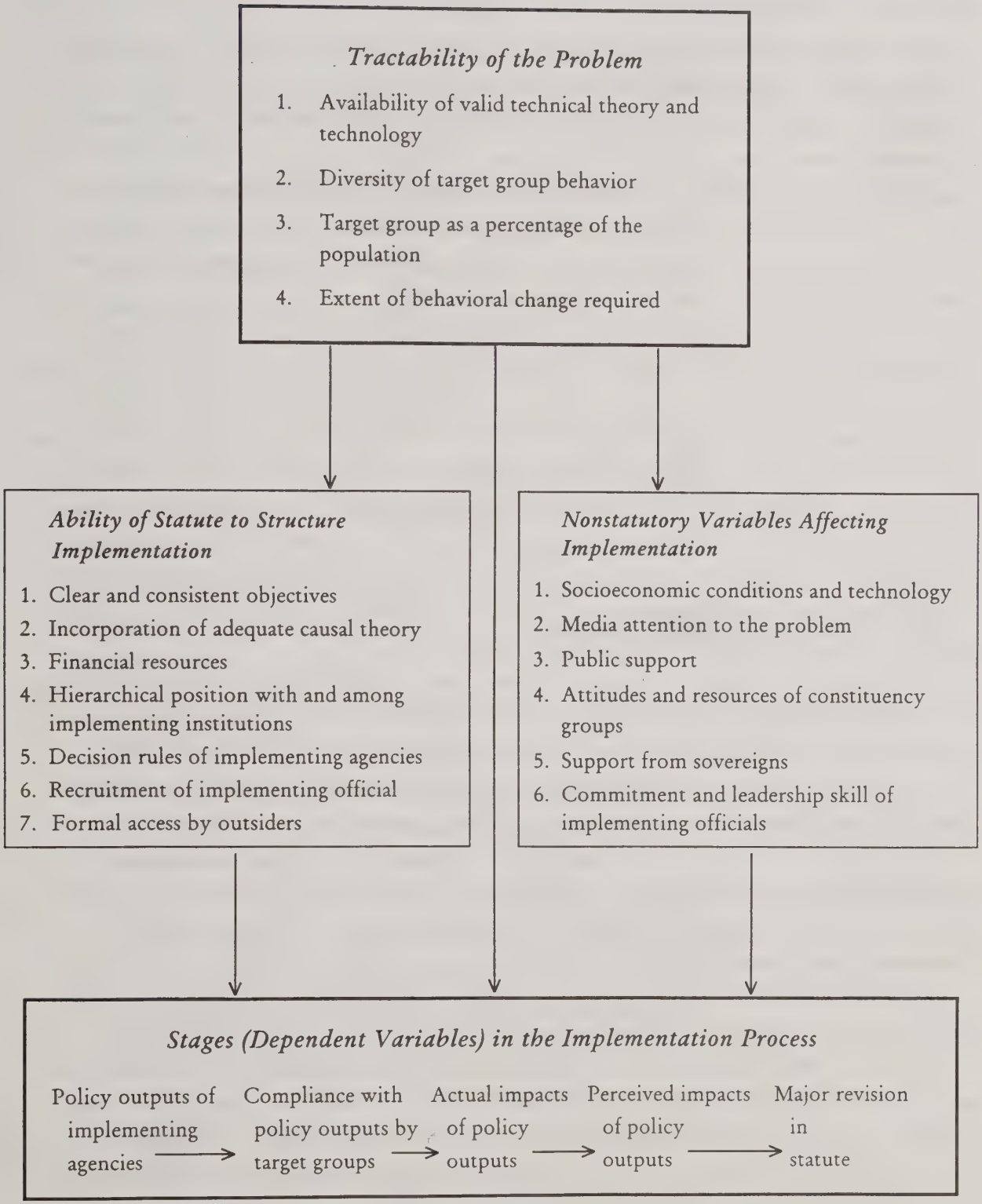

FIGURE 1 Skeletal flow diagram of the variables involved in the implementation process

Source: Sabatier and Mazmanian 1981.

Industrial Marketing for Nonprofit Public Agencies

A corollary to the analytical framework of Sabatier and Mazmanian and the role of survey research within it is industrial marketing. The implementation of voluntary and regulatory conservation policy requires the personnel of conservation agencies such as the Natural Resources Conservation Service (NRCS) to work with diverse types of farm operators and landowners. To be successful, the personnel of conservation agencies frequently have to tailor their implementation strategies to fit the characteristics of farmers and landowners whose behavior (e.g., the adoption of conservation practices) they hope to influence (see Esseks and Kraft 1992; Elmore 1979–80; Kraft et al. 1989).

This approach corresponds to what is commonly referred to as *industrial marketing*: the marketing of goods and services to business and industrial firms (e.g., farms), commercial enterprises, nonprofit institutions, and governmental agencies for use in the production of goods and services (Corey 1983; Webster 1984). Essentially, agencies such as the Cooperative Extension Service, NRCS, Soil and Water Conservation Districts (SWCD), the Consolidated Farm Services Agency (FSA), and the Forest Service are marketing conservation practices to farm owners and operators in hope that the practices will be adopted, resulting in changed behavior on the part of farmers, reduced erosion, and enhanced water quality. Essentially, conservation practices that support policy objectives become part of the mix of inputs that farmers manage to produce output and, hopefully, profits.

These agencies combine a number of different marketing approaches. For example, they are implicitly engaged in social marketing (Kotler and Roberto 1989) through which they attempt to change the behavior of farm operators and landowners toward their land resources. That is, the agencies are working to reduce soil loss and enhance water quality through the application of market analysis, planning, and control to the farm sector. Additionally, the personnel of these agencies parallel the role of industrial salespeople when they work one-on-one with farmers and landowners, demonstrating how specific conservation practices can be adapted to work with the particular farmer's goals and resource constraints (see Webster 1984). Frequently, such salespeople take existing products and strategies and adapt them on a firm-by-firm basis, providing a customized set of inputs for each firm. Similarly, conservation personnel frequently provide a customized blend of structural and nonstructural conservation practices for each farm operator. Frequently the actual practices are fine-tuned to meet the requirements of a particular farm. Furthermore, the same personnel frequently operate under a nonprofit goal structure which is tied to performance standards set by the rules of program implementation (e.g., agency criteria as opposed to "earning a profit") (Kotler and Andreasen 1987).

Survey research is an effective tool of identifying the characteristics of farm operators, farm businesses, and landowners that are vital to the development of strategies for marketing conservation policies.

The Role of Survey Research

The perspectives of Sabatier and Mazmanian and industrial marketing indicate the critical role that survey research can play in the development and implementation of soil and water conservation policy. For example, survey research can be used to address issues, including the following:

- ⇒ the target group's knowledge about the "perceived problem" that a policy is designed to remedy
- ⇒ responses of policy targets to potential policy alternatives
- ⇒ diversity in the behavior of members in the target group
- ⇒ socioeconomic and political characteristics of the members of the target group that are related to their conservation behavior
- ⇒ responses of policy targets to changes in existing policy
- ⇒ targets' reactions to the process of policy implementation
- ⇒ targets' perceptions of the monitoring of their compliance with policy regulations or rules
- ⇒ targets' perceptions of enforcement and penalties
- ⇒ assessment of rule making and the closeness of the rules to legislative intent from the perspective of various actors
- ⇒ means to check the extent that grievances reported through scattered anecdotes are shared by members of a representative sample
- ⇒ assessment of targets' knowledge about programs and policies
- ⇒ extent to which an understanding of the policy's goals is shared among personnel of the implementing agency or agencies
- ⇒ extent to which agency rules for implementing the policy are commonly understood by agency personnel, members of the target group, and the general public
- ⇒ assessment of the capacity (e.g., personnel, financial, etc.) of the implementing agency or agencies to meet the demands of implementation
- ⇒ assessment of demands placed on implementing agencies by the target group
- ⇒ assessment of the extent to which implementing agency personnel understand the limitations that policy targets face in complying with the policy
- ⇒ changing nature of the general public's support of the policy's goals
- ⇒ changing attitudes and resources of the various constituency groups involved with the policy and its implementation

Given the USDA's existing statutory authority (especially the 1985 Food Security Act, the Food, Agriculture, Conservation, and Trade Act of 1990, and the Federal Agriculture Improvement and Reform Act of 1996), studies that incorporate surveys of farm operators

and landowners provide data on factors affecting the conservation behavior of farmers and owners that can be used in designing strategies for effectively implementing conservation policy (e.g., the Conservation Reserve Program (CRP), Conservation Compliance). Studies of the implementing agencies can identify problems (and their causes) in the actual implementation of the policy. Since 1982–83, researchers have investigated the interrelationships among the various farm-level planning activities that form the core of conservation policy in the 1985, 1990, and 1996 Farm Bills; the commodity programs; and changes in the conservation behavior of farmers. These relationships are also important, given the debate surrounding the development of the 1996 Farm Bill (see Lugar 1994) and policy debates concerning clean water, coastal zone management, endangered species, and private property rights. Furthermore, longitudinal survey data can reveal the extent of changes in farmers' conservation behavior and attitudes over time.

Information derived from these surveys can be used by Congress and by agricultural and environmental groups to admonish the USDA to fulfill its statutory responsibilities to significantly reduce soil loss and environmental pollution (e.g., contamination of ground and surface water (U.S. Environmental Protection Agency 1990; USDA 1989a)). Similarly, the information can be used to develop modifications of program rules to allow for diversity among farms. Additionally, survey results are useful in formulating new long-term policy options designed to render American agriculture more environmentally benign while maintaining farm profitability (USDA 1989b, 1994a; Sorensen 1994).

Highly Erodible Land: An Example

The Highly Erodible Land (HEL) provisions of the Conservation Title of the 1985 Food Security Act play a central role in this conservation effort. Among other programs, these provisions established the CRP and Conservation Compliance. Conservation Compliance states that farmers with HEL who want to remain eligible for USDA program benefits must develop a conservation plan for that land and have the plan fully implemented by 1 January 1995. Failure to obtain a plan approved by the NRCS or failure to implement the plan according to a mutually agreed schedule risks loss of eligibility for USDA programs.

According to former SCS Chief William Richards, by 1991 there were plans for more than 1.2 million farms that covered 134.7 million acres (U.S. House of Representatives 1991). According to the current Chief, Paul Johnson, analysis of a reliable 1993 national sample of Conservation Compliance plans found that "erosion on our most highly erodible lands will be reduced by about 66 percent going from an estimated national average of 17.5 tons per acre in 1985 to 6 tons per acre annually when plans are fully implemented by December 31, 1994" (USDA 1994b).

The protection of highly erodible land and water quality provided by Conservation Compliance plans is not necessarily multiyear. Conservation plans including approved crop rotations and tillage practices must be followed on an annual basis. From year to year, structural practices may lose their capacity to protect soil if storm damage is not repaired or

if a producer decides to bulldoze them out. Consequently, because of changing weather, relative market prices, technology, or other business conditions, producers may prefer to ignore their Conservation Compliance plans partially or completely. Furthermore, changes in benefits derived from USDA programs could influence the decisions of producers to continue implementing their plans. Finally, also changing from year to year may be the perceived effectiveness of USDA's enforcement of Conservation Compliance. Seeing a pattern of weak monitoring or lenient decisions on penalties by USDA, producers may find little practical impediment to noncompliance.

Given Congressional oversight, rule making and promulgation, agency audits and administration, and the "watchdog" activity of conservation and farm groups, policy formulation and implementation comprise an ongoing process. Consequently, the results of survey research can be used both as inputs to this process, hence achieving more of the policies' objectives, and as sources of information used in the development and assessment of new, longer-term policy options (USDA 1994a, 1995).

Based on the literature and recent results from surveys of farm operators, let's look at some of the lessons that survey research can provide for future conservation policy.

Procedure for Recent Esseks and Kraft Studies

To conduct the studies, we have interviewed samples of Midwestern farmers with highly erodible land (HEL). Surveys were conducted using telephone interviewing. We have found that a 20-minute, personal phone interview works very well.

The samples of farmers surveyed were selected through a two-step process. Using data from the NRCS' CAMPS database, counties from the Corn Belt states of Ohio, Indiana, Illinois, Iowa, and Missouri were selected. The likelihood of a county being selected was based on the proportion in that county of Corn Belt tracts of (or including) HEL land requiring Conservation Compliance or CRP plans. Then in the second stage, 15 tracts were randomly selected from the CAMPS database for each of the counties chosen in the first stage of sampling. Based on this procedure, samples of approximately 1,500 were drawn for surveys of farm operators in 1993, 1995, and 1996 (following a similar procedure, a sample for the Corn Belt was drawn in 1992 as part of a national study of conservation policy). For each sample, a survey questionnaire was prepared. The questionnaire was then presented to the planning staff at NRCS's National Headquarters for review. During these meetings, representatives of the FSA and the Economic Research Service made comments on the draft questionnaires. Additionally, the State Conservationists of all the states included in the studies were asked to review the questionnaires and to make recommendations for changes. Before each survey, we reviewed the proposed questions with the majority and minority staffs dealing with conservation policy of both the House of Representatives and Senate agricultural committees. Finally, we met with the staff from the Congressional Research Service working on agricultural conservation policy.

Some Survey Results and Implications for the Twenty-first Century

Within the agricultural community, early in January 1995, there was particularly strong concern about the shape and direction of the 1995 farm bill. The November elections had resulted in a change in the party leadership of both the House of Representatives and the Senate. There was much debate regarding both the farm programs and the budgets those programs might have. During our meetings in Washington in preparation for the 1995 survey, one of the items impressed on us by all the people we talked with was the very real possibility that USDA program benefits would be cut substantially by the new Congress. Consequently our survey research could be designed to assess the possible reactions of the target population (e.g., farmers with HEL) to some of the alternative policies for the 1995 farm bill. As a result, we asked the surveyed farmers a number of questions regarding potential cuts in USDA program benefits and the implications these would have for the farmers' willingness to continue implementing their Conservation Compliance plans. Based on their 1994 levels, we asked the farmers to assume a 50% cut in per bushel deficiency payments and to indicate if they would continue to apply their Conservation Compliance plans. Given the 50% reduction in benefits, 60.1% of the producers indicated that they would continue to implement their plans. We then decreased the size of the reduction in deficiency payments to 25% of their 1994 level. Seventy-one percent of the producers with Conservation Compliance plans indicated that they would continue with plan implementation given a reduction of this size. Finally, we asked what would happen if deficiency payments were reduced by just 10%. Given this alternative, 81% of the producers indicated that they would continue with their plans.

The preceding figures suggest that there will be a conservation cost associated with reduced program benefits. Given relatively large cuts (50%), 40% of the Corn Belt producers with Conservation Compliance plans will elect to stop plan implementation. Generally, the deeper the cuts in benefits, the greater the number of farmers who will not implement their conservation plans. However, even a 50% cut might leave more than a majority of the affected farmers still complying.

In addition to asking farmers about their potential responses to Conservation Compliance in light of possible reductions in program benefits, we asked the farmers to indicate what the U.S. Congress should do with Conservation Compliance in the new Farm Bill. (Given the initial public expectation that a farm bill would be passed in 1995, three of the surveys referred to the 1995 farm bill. Given that a farm bill was not passed in 1995, the last survey in 1996 referred to the pending 1996 farm bill.) The targets of a quasi-regulatory program like Conservation Compliance may appear to find it successful by several criteria: they may agree that it is meeting an important objective (i.e., reducing soil erosion); its administration is seen to be rather flexible; few targets report losing money because of the program; and the degree of noncompliance is perceived to be small. The same targets of the policy may nevertheless prefer to have the program abolished. For them it may remain a

slight but unredeeming burden, and/or they may believe that a nonregulatory approach to the same problem would be superior.

In all four of our Corn Belt surveys we asked the question, "In your opinion what should the U.S. Congress do with Conservation Compliance in the 1995 [1996] Farm Bill? Keep the conservation program as it currently is, keep it but only after it is improved through amendments, or abolish it completely?" The pattern of responses to this changed rather little across the time span of the four surveys (table 1, page 23). The percentage favoring the retention of Conservation Compliance as it was currently structured increased somewhat from 31.3% of the sample in the 1992 study to 38.7% in the winter of 1995. The small decrease to 37.8% recorded a year later was not statistically significant. The increase of 4.1 percentage points in the "abolish" responses between the winter 1995 and winter 1996 surveys was statistically significant. However, the 1996 percentage (19.4%) was virtually the same as the fall 1993 level in favor of eliminating conservation compliance. Still, less than one-fifth of the sample of producers with Conservation Compliance plans called for ending the program when given the explicit opportunity to embrace that policy option. A lot happened in the history of Conservation Compliance between the first survey in the fall of 1992 and the fourth in the winter of 1996; the deadline for full application of plans occurred at the end of 1994; and 1995 saw considerable antiregulatory rhetoric in the media. However, opinion in the Corn Belt about Conservation Compliance's legislative fate remained rather stable.

A follow-up question tested whether the 42.2% of respondents who in 1996 selected the option, "keep it only if improved," had opinions that amounted to a desire to abolish or emasculate Conservation Compliance. The surveyed producers in that category were asked to recommend improvements. A modest number of the respondents (accounting for 4.7% of the full sample) wanted stricter enforcement of Conservation Compliance, not some weakening of it (see data row 4 in table 2, page 24; examples of this category of recommendations are given in the table's footnotes). Another group of about the same size (4.2%) recommended better incentives, such as loans to buy needed equipment for no-till or higher cost-sharing payments (data row 5). A third group of about this magnitude (4.5%) advocated various improvements that also implied no weakening of Conservation Compliance; for example, they wanted better conservation tools for young farmers who are starting out, more conservation attention to places along rivers and streams, and more uniform enforcement (row 8). Then there was a fourth, larger group (10.5% of the full sample) who, when asked for ways to improve Conservation Compliance, either could think of none or launched into criticisms of one of three other USDA programs (the Conservation Reserve Program (CRP), Swampbuster, or the commodity programs—row 9).

In contrast were two groups of respondents who explicitly or implicitly advocated more freedom for the farmer to decide on how or when to comply. A group of 4.4% wanted more flexibility in the use of tillage practices (e.g., so they could use deeper tillage to break up compacted soil; be allowed a lower residue standard if growing conditions were not average;

or be able to suspend no-till when it was necessary to till manure into the soil (see data row 6). A more sizable group (14.6%) advocated a variety of reforms united by their common purpose of reducing or moderating USDA's authority to determine appropriate compliance. For example, farmers in this group asked for more freedom in choosing practices, more flexibility after a flood or drought, better tailoring of plans to fit individual farmers' operations, excluding the federal government from Conservation Compliance, or making Conservation Compliance voluntary (see row 7).

The survey research revealed how affected farmers thought about Conservation Compliance and how it should be treated when Congress considered farm policy. While the results indicated the feelings of the group targeted by the policy, the surveys also provided information for the agencies implementing the policies (e.g., how should the NRCS respond to these recommended changes?). The requested greater flexibility after natural disasters may result in the agency considering the conditions under which variances are granted and expediting the process by which variances are considered. The desire for greater freedom to choose practices may be met by considering new rules that permit producers to modify their Conservation Compliance plans without formal NRCS approval as long as the same level of conservation protection can be achieved. Whether or not the producer needs formal NRCS approval for plan changes, she or he may require technical assistance. NRCS officials could assess the usefulness of continuing the capacity to provide free, one-on-one technical assistance regarding structural and nonstructural conservation practices. Consequently, we would expect that as environmental policy affecting agriculture continues to unfold in the 21st century, survey research will continue to reveal how the targets of the policies feel about them while providing information that policy implementators can use in structuring implementing strategies.

Along with the producers' opinions regarding what should happen with Conservation Compliance in the 1995/6 Farm Bill, we asked them to assess NRCS' perceived fairness in administering the program. If producers who are the target of a quasiregulatory program like Conservation Compliance believe that the program is unfairly administered, the program could run into stiff resistance among the target population, as well as legislative initiatives to weaken it. Consequently, survey research can be used to help assess the extent to which the targets of the policy are being unfairly treated.

Conservation Compliance and other portions of the Food Security Act of 1985 represented what Kerwin (1994) calls a sudden and radical shift in how NRCS interacted with farmers operating HEL. NRCS, which formerly had been seen as farmer-friendly through providing free technical assistance to farmers on a voluntary basis, was transformed into an agency implementing a quasiregulatory program requiring the monitoring of farmers' behavior and enforcement if farmers were found out of compliance. Consequently, NRCS personnel might be very interested in how the targets of the new policy perceive the fairness with which the agency is implementing the rules governing Conservation Compliance.

As a result, we asked in all four surveys how the producers perceived NRCS' fairness in administering Conservation Compliance. The perception of fairness tapped in all surveys is reported in table 3 (page 25). The respondents were asked if they believed that NRCS would be fair to producers who were unable to apply compliance practices due to circumstances beyond their control, such as flooding or drought. The percentage of interviewees selecting the "very fair" option rose from 28.9% in 1992 to 43% in the fall of 1993, after the terrible flooding of that summer in the western Corn Belt. Subsequently the "very fair" percentage declined to 40.3% in the 1995 study and then to 37.9% in winter 1996. The decrease of 5.1 percentage points between the 1993 and 1996 studies is statistically significant. Corn Belt producers' perceptions of NRCS fairness may improve as a result of a 1996 Farm Bill amendment—the one calling for "expedited procedures for the consideration and granting of a temporary variance" that "address[es] weather, pest, or disease problems" (U.S. House of Representatives, 1996, Section 314). If improvement does take place, it can be assessed during a subsequent round of interviewing.

Conservation Compliance requires that farmers adjust the way they farm in order to reduce soil erosion if they want to remain eligible for USDA program benefits. The impact of these plans on the farm's profitability is tied to the number of acres covered by the plan and the proportion of the farmer's whole operation that requires a plan. Our results indicate that for most farmers, the land covered by Conservation Compliance plans are a major component of their farm operations. For the surveyed farmers in 1993, the median number of acres requiring a plan was 437.5 acres (Esseks et al. 1994). Similarly, at the median, farmers had plans for 87% of the land they farmed. Consequently, the plans could have a significant impact on the farm operation. In 1996, 35.6% of the respondents with Conservation Compliance plans applied those plans not only to their HEL but also to their non-highly-erodible land. Given the significance of Conservation Compliance to the farm operation, survey research could be used to assess the farmers' perception of its impact on profitability.

The majority of respondents in the 1996 survey (as was the case in the 1992, 1993, and 1995 surveys) did not expect Conservation Compliance to adversely affect earnings after taking into account the costs of production (table 4, page 26). For example, in the 1996 survey, 73.5% of the respondents expected that the plans would either have no effect on earnings or that the plans would increase earnings. These results compare favorably with the 70.1% response obtained from Corn Belt farmers during a national survey in 1992 (Esseks and Kraft 1993) and with the 70.8% response in another Corn Belt survey in 1993. The anticipation that compliance plans will not reduce profitability works for their effective implementation.

From a public policy perspective, in a quasiregulatory program like Conservation Compliance, implementation efforts need to be complemented by monitoring and enforcement. Survey research can be used to assess farmers' perceptions of the extent to which monitoring and enforcement are taking place. Research on various regulatory

programs (Davis, 1988; Donovan, 1989; Erickson, Gibbs, and Jensen, 1977; Esseks, Kraft, and Furlong) indicates that policy targets are more likely to comply if there is a high probability of being caught out of compliance. In other words, while many targets may comply for other reasons (e.g., because conservation practices in their plans improve their earnings and/or they believe in the goal of conserving soil), others need the negative incentive of probable detection and penalty if they fail to comply. Consequently, across the four surveys, we asked a number of questions about the respondents' expectations concerning monitoring and enforcement (tables 5 and 6, on pages 27 and 28 respectively).

In all four surveys we asked the interviewed producers to estimate the likelihood of noncompliers being discovered. In both the 1992 and 1993 studies, about 31% of the sample chose the response option, "high likelihood," which was defined in the interview as something greater than a 50–50 chance (table 5). In the winter 1995 survey, the percent choosing high likelihood dropped slightly to 26%; and a year later it decreased more significantly to 16.3%. Some of that drop may be attributable to a slight change in the question's wording (compare the texts of the two questions, which are reproduced at the bottom of table 5).

However, between 1993 and 1996, there was a 15.6 percentage point reduction in the proportion of producers who felt that there was a high likelihood (greater than a 50–50 chance) of being found in violation. Common sense and many empirical studies indicate that, other things being equal, the persons who are the subjects of regulations are more likely to comply with them if there is a reasonably high expectation that noncompliance will be detected. If subsequent observations showed further declines, we might become concerned that USDA was failing to maintain a credible capability of discovering violations.

For noncompliance to be deterred, potential violators may need to see a reasonably high likelihood of meaningful penalties being imposed, as well as a high enough chance of the violations being detected. All four of our Corn Belt surveys contained essentially the same question about the perceived likelihood of the respondent's local FSA committee voting to deny USDA benefits to a producer who intentionally did not "apply a practice required by his compliance plan." As table 6 indicates, the percentage of respondents choosing the "high likelihood" option (i.e., greater than a 50–50 chance) increased from 44.1% in the 1992 study to 55.8% in 1995. Then there was a statistically significant 8.6 percentage-point decrease between the 1995 and 1996 surveys to 47.2%. In other words, for the classic two-phase deterrence model—(1) high certainty of detection accompanied by (2) high certainty of a meaningful penalty—the observed trend is negative in both components. As seen earlier, survey research can play an useful role in revealing aspects of a policy's implementation that can foster or hinder its effectiveness.

Projections

Notwithstanding the elections of 1994 and 1996, looking 10 to 50 years into the future, we predict that agriculture will be challenged by the larger society to become more environ-

mentally benign. Consequently, while there may be ebb and flow in the policy arena, agricultural producers will increasingly feel the pressure to reduce both nonpoint and point source pollution. The process through which this is achieved will most likely include an oscillation between the use of voluntary incentives coupled with cost sharing and regulation.

As agriculture continues to undergo a structural transformation through which farm operations become larger and more industrialized, production agriculture will lose its Jeffersonian cachet and will be treated similarly to other industrialized sectors of the economy. As this takes place, agriculture will be subject to a similar mixture of regulatory and market-based approaches to control environmental pollution. Throughout this process, survey research can be an effective tool in assessing the acceptability of different policy instruments and their perceived costs and benefits from the perspectives of the farm operators involved, the agency personnel implementing the policies, and the general public.

Summary

The results suggest that farmers with HEL are engaged in Conservation Compliance planning and the implementation of those plans. The data indicate that a large majority of the producers with Conservation Compliance would continue using those plans in light of large reductions in the value of USDA program payments. However, even here 40% of the producers with plans would no longer follow them. This could have significant implications for the rates of soil erosion and the subsequent impacts on the quality of both surface and ground water.

Producers do not see their plans as having large economic costs in terms of the profitability of their farm businesses. This is probably a factor in their continued acceptance.

For the benefits of Conservation Compliance to be achieved, participating farmers must believe that there is a relatively high likelihood that noncompliance will be detected and that violators will be penalized. Our data indicate that in terms of detection there is a reduction in the perception or belief of producers with plans that there is a high likelihood of noncompliance being detected. This should be a warning to NRCS and other USDA agencies that they will have to continue to take their monitoring role seriously while demonstrating this to producers.

Notwithstanding recent election results, we anticipate that farm operators will feel increasing pressure to adopt production practices that are environmentally benign. The actual mix of policy instruments will include both regulatory and market-based incentives. However, the availability and political acceptability of incentive payments and cost sharing to aid farmers in adopting conservation practices will fade, given the structural transformation of agriculture and constraints on the federal budget.

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TABLE 1

Preferences of Corn Belt respondents *with compliance plans* as to what Congress should do with conservation compliance in the Farm Bill

Response category	Fall 1992	Fall 1993	Winter 1995	Winter 1996
			%	
Keep it	31.3	36.5	38.7	37.8
Keep it only if improved	47.4	42.4	44.3	42.2
Abolish it	18.8	19.7	15.3	19.4
Not sure/did not respond	2.4	1.4	1.7	0.6
Total (percent)	100.0	100.0	100.0	100.0
Number responding (*N*)	256	918	839	836

Text of survey question: "In your opinion what should the United States Congress do with conservation compliance in the 1995 Farm Bill? Keep the conservation compliance program as it currently is, keep it but only after it is improved through amendments, or abolish it completely?"

☛ The Winter 1996 survey used the wording: "the pending Farm Bill."

TABLE 2

Changes/improvements in conservation compliance that some respondents *with compliance plans* recommended

Respondent's preference	Winter 1996
	%
1 Abolish it	19.4
2 Keep Conservation Compliance as it currently is	37.8
3 **Keep it only if improved through amendments**	**42.2**
Types of "improvement" sought by the 42.2% of respondents who would keep compliance only if it were amended, and *percent of total sample* seeking each listed type of "improvement"	
4 Stricter enforcement*	4.7
5 Better incentives for compliance †	4.2
6 More flexibility in use of tillage practices to meet Conservation Compliance goals, including more discretion for the individual producer ‡	4.4
7 Other suggestions indicating preferences for less strict regulations for Conservation Compliance plan implementation**	14.6
8 Suggestions for improving Conservation Compliance that did ***not*** indicate preference for more lenient regulations for plan implementation ††	4.5
9 Farmer chose the "Improve it" response option, but when asked "How?" he/she answered "Don't know," "can't think of any improvement," or offered suggestions for improving the CRP, Swampbuster, or commodity programs	10.5
Number responding (*N*)	836

Examples of desired improvements by category:

*Check up on farmers more; more enforcement of existing plans; more spot checking.

† Loans needed to buy machinery for no-till; increase cost-sharing payments; more payments to make it worthwhile; incentives are not strong enough.

‡ Difficult to no-till when have livestock and must haul manure; they're asking for too much residue; need deeper tillage to break up compaction; lower residue standard if growing conditions are not average; let farmer decide when to begin tillage.

**Agency too intolerant of different ways of farming; more freedom to farmers to choose practices to achieve their soil erosion goals; keep federal government out of it—it should be handled locally; after a drought or flood there should be more leeway; needs to be tailored to the individual and his own farmland; they don't have all the land classified right; make conservation compliance voluntary; too many restrictions; be more lenient with land that's new in the program.

†† Develop conservation tools for young farmers who are starting out; more education of older farmers to show them how improvements can be made; reduce conflict between ASCS and SCS; more attention to places along rivers and streams to improve water quality; do something to control farmers from abusing land who are not in the program; more uniform enforcement.

TABLE 3

Expectations of respondents *with compliance plans* regarding the fairness of USDA's enforcement of conservation compliance

Fairness of enforcement	Fall 1992	Fall 1993	Winter 1995	Winter 1996
			%	
Not at all fair	3.5	4.0	5.7	6.2
Somewhat fair	22.3	15.5	18.8	18.2
Moderately fair	41.0	30.6	31.2	34.8
Very fair	28.9	43.0	40.3	37.9
Don't know/won't answer	4.3	6.8	3.9	2.9
Total (percent)	100.0	100.0	100.0	100.0
Number responding (*N*)	256	918	839	836

Text of survey question: "Some farmers may be unable to apply compliance practices successfully due to circumstances beyond their control. It will not be intentional. For example, the required crop residue levels may not be reached because of flooding or drought. Will the Natural Resources Conservation Service office serving your county be fair to this kind of producer who faces circumstances beyond his control? Will that office be: Not at all fair, somewhat fair, moderately fair, or very fair?"

TABLE 4

Farmers' opinions regarding the effect of their compliance plans on earnings

Applying their Conservation Compliance practices **will** *or* **would**	**Fall 1992***	**Fall 1993***	**Winter 1995†**	**Winter 1996‡**
	%			
Decrease earnings	27.3	25.5	25.3	24.5
Not change earnings	43.0	42.3	54.1	52.2
Increase earnings	29.3	28.5	19.1	21.3
Don't know/won't answer	0.4	3.7	1.6	2.0
Total (percent)	100.0	100.0	100.0	100.0
Number responding (*N*)	256	918	839	836

**Text of question in 1992 and 1993 surveys:* "Here is a question about the financial effects of applying conservation practices listed in your compliance plan. Let's say you have been applying those practices a few years and are experienced in using them. After you gain or have that experience, will applying the practices have any effect on the land's earnings after production costs? Will applying the practices decrease earnings after production costs, not really change earnings, or will it increase earnings?"

† *Text of question in 1995 survey:* "Here is a question about the financial effects of applying the conservation practices listed in your compliance plan. Some farmers for good reasons have not applied the practices listed in their plans. That is their business. We are interested in your estimates of the financial effects if the practices listed in your plan were applied to your farmland. Does or would applying them decrease the land's earnings after production costs, not really change earnings, or increase earnings?"

‡ *Text of question in 1996 survey:* "We are interested in your estimates of the financial effects of applying the conservation practices in your compliance plan. In a year of normal weather and normal prices (such as corn at $2.30 and soybeans at $5.80), would applying those practices to your farmland decrease the land's earnings after production costs, not really change earnings, or increase earnings?"

TABLE 5

Expectations of respondents *with compliance plans* regarding the likelihood of noncompliance being discovered by USDA

Likelihood of discovery	Fall 1992*	Fall 1993*	Winter 1995*	Winter 1996†
	%			
Zero likelihood	0.4	0.7	0.7	1.7
Low likelihood	14.1	11.9	14.2	21.7
Moderate likelihood (a 50-50 chance)	52.7	52.0	57.4	58.6
High likelihood	30.9	31.9	26.0	16.3
Don't know or won't answer	2.0	3.6	1.7	1.8
Total (percent)	100.0	100.0	100.0	100.0
Number responding (*N*)	256	918	839	836

**Text of question in 1992–95 surveys:* "Before violations of conservation compliance can be penalized, they have to be discovered. In your county, how likely is it that USDA will discover that a producer has failed to apply a practice required by his compliance plan? In your opinion, is there a: zero likelihood of being discovered, a low likelihood, a moderate likelihood (such as a 50-50 chance), or a high likelihood of violations being discovered?"

† *Text of question in 1996 survey:* "Before violations of conservation compliance can be penalized they have to be discovered. If a producer in your county failed to apply a practice required by his compliance plan, how likely is it that the USDA would discover that failure? In your opinion, is there a . . ."

TABLE 6

Expectations of respondents *with compliance plans* regarding the likelihood of an intentional violator of conservation compliance being denied eligibility for USDA program benefits by the local CFSA committee

Likelihood of lost eligibility	Fall 1992*	Fall 1993*	Winter 1995*	Winter 1996†
	%			
Zero likelihood	1.2	2.2	2.0	2.5
Low likelihood	7.4	8.6	7.2	9.8
Moderate likelihood (a 50-50 chance)	43.8	34.9	31.5	37.0
High likelihood	44.1	47.1	55.8	47.2
Don't know/won't answer	3.5	7.3	3.6	3.1
Total (percent)	100.0	100.0	100.0	100.0
Number responding (*N*)	256	918	839	836

**Text of question in 1992–95 surveys:* "Let's say that the local Soil Conservation Service office found that a producer in your county failed to apply a practice required by his compliance plan. The office discovered this failure through visiting the farm or through inspecting aerial photographs. Let's say also that this failure was considered intentional. In your county, how likely is it that the county ASCS Committee will deny such a producer USDA benefits like disaster payments and deficiency payments? In your opinion is there a zero likelihood of benefits being denied, a low likelihood, a moderate likelihood (such as a 50-50 chance), or a high likelihood of benefits being denied?"

† *Text of question in 1996 survey:* "Let's say that the local office of the NRCS found that a producer in your county failed to apply a practice required by his compliance plan. The office discovered this failure through visiting the farm. Let's say also that this failure was considered intentional. In your county, how likely is it that the county FSA Committee will deny such a producer all benefits like disaster payments and deficiency payments? In your opinion, is there . . ."

United States Department of Agriculture
Natural Resources Conservation Service